

**What is Claimed:**

1. A method for fracturing pattern data, comprising:
  - sorting the pattern data into a plurality of fields, each field composed of a plurality of scanstrips;
  - reading at least one field from the plurality of fields; and
  - sequentially extracting scanstrips from the at least one read field until all scanstrips from the at least one read field are extracted.
2. The method of claim 1, further comprising:
  - iteratively repeating the steps of reading and extracting for each field of the pattern data.
3. The method of claim 1, wherein the pattern data is configured in a first format in preparation for subjecting the fractured pattern data to a rasterizing process to convert the pattern data to a second format, the method further comprising:
  - sending the extracted scanstrips for rasterizing to be converted into the second format.
4. The method of claim 3, further comprising:
  - iteratively repeating the steps of reading, extracting and sending for each field of the pattern data.
5. The method of claim 1, wherein the first format of the pattern data is selected from one of a hierarchical GDSII format, a flat MEBES format and a data format in algorithmic form.
6. The method of claim 1, wherein said steps of sorting, reading and extracting are performed in real time by one or more processors so that fracturing of the pattern data is performed over parallel processing paths.

7. The method of claim 6, wherein each of said one of more processors reads and extracts a scanstrip from a given field until each processor is processing a scanstrip.

8. The method of claim 3, wherein

the second format converted by the rasterizing process is a multivalued bitmap data that is loaded into an analog spatial energy beam modulator (SEBM) of a pattern generator, and

a multivalued datum for a pixel is converted to an analog multivalued electromagnetic quantity as the bitmap data is loaded into the SEBM.

9. The method of claim 8, wherein the electromagnetic quantity is an electric potential.

10. The method of claim 8, wherein a surface of the SEBM is divided into subfields, and the fields of the pattern data correspond to the subfields of the SEBM.

11. A method for converting pattern data in a first format to a second format and feeding the pattern data in the second format to an analog spatial energy beam modulator (SEBM) of a pattern generator, comprising:

in at least one fracture processor,

sorting the pattern data in the first format into a plurality of fields,  
each field composed of a plurality of scanstrips;

reading at least one field from the plurality of fields;

sequentially extracting scanstrips from the at least one read field  
until all scanstrips are extracted, and

sending the extracted scanstrips to at least one rasterizing module;

rasterizing, in the at least one rasterizing module, at least part of the  
extracted scanstrips to convert the scanstrips to pattern data of the second format,  
the pattern data of the second format corresponding to an area on the SEBM, and

loading the pattern data of the second format into said area of the SEBM.

12. The method of claim 11, wherein

the first format of the pattern data is selected from one of a hierarchical GDSII format, a flat MEBES format and a data format in algorithmic form, and the second format converted by rasterizing is a multivalued bitmap data.

13. The method of claim 12, wherein said loading includes converting a multivalued datum for a pixel to an analog multivalued electromagnetic quantity as the bitmap data is loaded into the SEBM.

14. The method of claim 13, wherein the electromagnetic quantity is an electric potential.

15. The method of claim 11, wherein a surface of the SEBM is divided into subfields, and the fields of the pattern data correspond to the subfields of the SEBM.

16. A fracture processing unit for fracturing pattern data, comprising: /  
one or more fracture processors, each fracture processor sorting the pattern data into a plurality of fields, each field composed of a plurality of scanstrips, reading at least one field from the plurality of fields, and sequentially extracting scanstrips from the at least one read field until all scanstrips from the at least one read field are extracted.

17. The fracture processing unit of claim 16, wherein each fracture processor performs the sorting, reading and extracting in real time so that fracturing of the pattern data is performed over parallel processing paths.

18. A multiprocessor arrangement for converting pattern data in a first format to a second format and feeding the pattern data in the second format to an analog spatial energy beam modulator (SEBM) of a pattern generator, comprising: ✓

at least one fracture processor receiving pattern data from an input data file, sorting the received pattern data in a first format into a plurality of fields, each field composed of a plurality of scanstrips, reading at least one field from the plurality of field, sequentially extracting scanstrips from the at least one read field until all scanstrips are extracted;

at least one rasterizing module receiving the extracted scanstrips from the at least one fracture processor and rasterizing at least part of the extracted scanstrips to convert the scanstrips to pattern data of the second format, the pattern data of the second format corresponding to an area on the SEBM, and

an interface loading the pattern data of the second format into said area of the SEBM.

19. The arrangement of claim 18, wherein

the first format of the pattern data is selected from one of a hierarchical GDSII format, a flat MEBES format and a data format in algorithmic form, and

the second format converted by the at least one rasterizing module is a multivalued bitmap data.

20. The arrangement of claim 18, wherein a surface of the SEBM is divided into subfields, and the fields of the pattern data correspond to the subfields of the SEBM.

21. The arrangement of claim 18, wherein the SEBM is a spatial light modulator (SLM).